

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

PENG LEE and KEVIN SEDDON

Serial No.: 10/708,571

Filed: March 11, 2004

For: NONDESTRUCTIVE RESIDENTIAL
INSPECTION METHOD AND
APPARATUS

Attorney Docket No.: 026018.50271

APPEAL BRIEF

MS-Appeal Brief – Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

As required under § 41.37(a), this brief is filed within two months of the Notice of Appeal filed in this case on September 5, 2007, and is in furtherance of said Notice of Appeal.

The fees required under § 41.20(b)(2) are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. §41.37 and M.P.E. P. § 1205.02:

- I. Real Party In Interest
- II. Related Appeals, Interferences and Judicial Proceedings
- III. Status of Claims
- IV. Status of Amendments
- V. Summary of Claimed Subject Matter
- VI. Grounds of Rejection to be Reviewed on Appeal
- VII. Argument

I. REAL PARTY IN INTEREST

The real party in interest is HomeSafe, Inc, a Corporation organized under and pursuant to the laws of the State of Tennessee, and the assignee of this application.

II. RELATED APPEALS, INTERFERENCES AND JUDICIAL PROCEEDINGS

There are no other appeals or interferences that will directly affect or be directly affected by or have a bearing on the board's decision in this appeal.

III. STATUS OF CLAIMS

There are six (6) claims pending in the present application. Claims 10, 26-30 and 60. Claims 10, 26-30 and 60 are rejected. The claims on appeal are 10, 26-30 and 60. Claims 1-9, 11-25, 31-59 and 61-62 are cancelled. See Claim Appendix.

IV. STATUS OF AMENDMENTS

There has been no amendment since the final rejection dated June 14, 2007.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The invention disclosed in the '571 application relates to nondestructive residential inspection using an infrared camera to obtain temperature profiles of building components. Enhanced thermal contrast is obtained by two process steps; 1) creating a temperature differential of greater than 10°F between the inside and the outside of said residential building,

and 2) turning on substantially all light switches and substantially all exhaust blowers in the residential building. The enhanced contrast facilitates a rapid and accurate inspection of the residence. A variety of problems can be assessed including moisture and electrical deficiencies.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the ASTM C1060-90 standard titled "Standard Practice for Thermographic Inspection of Insulation Installations in Envelope Cavities of Frame Buildings" in view of the publication titled "InfraMation 2002 (262 pages) – Table of Contents" [hereinafter InfraMation]* and the publication titled "100's of Tips on Saving Energy and Money at Home" (www.mississauga4sale.com/newsletter/energy_saving_tips.htm) by Argentino.

B. Claims 26-30 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over ASTM-C1060-90 in view of Argentino and the publication titled "Infrared Inspection: Sample Home Inspection" by Boldstar.

VII. ARGUMENT

A. The Finality of the Rejection of Claim 10 Should be Withdrawn

In response to the February 12, 2007 Office Action, Applicant amended the pending independent claims to more particularly point out the invention. In order to rapidly inspect (in 4 hours or less) a residential building certain procedures are required to prepare the residential building for inspection. The use of these procedures yield sufficient contrast in the temperature profiles to allow for rapid inspection. Claim 10 has been amended to recite that the residential building is prepared for inspection and then the temperature profiles are obtained. The temperature profile can be assessed to detect a thermal anomaly indicative of a problem. This problem can include an electrical problem, a problem with insulation or a structural problem shown by increased moisture content

* The InfraMation document has not been cited in a 1449 form by either the Applicant or the Examiner.

The Court of Appeals for the Federal Circuit has explicitly addressed § 103 and followed the approach the Supreme Court set forth for applying that provision. Section 103 provides, in pertinent part:

A patent may not be obtained...if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

35 U.S.C. § 103(a).

The Supreme Court in *Graham* held that:

While the ultimate questions of patent validity is one of law, the § 103 condition, which is but one of three conditions, each of which must be satisfied, lends itself to several basic factual inquiries. Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.

Graham v. John Deere, Co., 383 U.S. 1 (1966).

Thus, under *Graham*, the obviousness inquiry is highly fact specific, and requires an examination of the following: (1) the scope and content of the prior art; (2) the differences between the patented invention and what already existed in the prior art; (3) the ordinary level of skill of people working in the field; and (4) other objective evidence which may suggest that the invention would not have been obvious. The Court also warned lower courts to “guard against slipping into use of hindsight,”...and to resist the temptation to read into the prior art the teachings of the invention in issue.” 383 U.S. at 36. *See also Ashland Oil, Co. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 291 (Fed. Cir. 1985), *cert. denied* 475 U.S. 1017 (1986).

[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

KSR International Co. v. Teleflex Inc., 2007 WL 1237837 (Sup. Ct. 2007).

Additionally the invention also may not be rendered obvious, unless the prior art is sufficiently enabling. *Motorola, Inc. v. Interdigital Technology Corp.*, 121 F.3d 1461, 1471 (Fed. Cir. 1997); *Beckman Instruments, Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551 (Fed. Cir. 1989).

The rejection of pending claim 10 as unpatentable under 35 U.S.C. § 103(a) is respectfully traversed because there is no rational underpinning for the examiner's legal conclusion of obviousness.

The primary reference cited by the Examiner is an ASTM document relating to thermographic insulation installations. The Examiner has read more into the ASTM document than is disclosed and at times edited the ASTM document to help make the case for obviousness. This is apparent from a comparison of the statements in the ASTM document and the Examiner's statements.

The Examiner notes that ASTM-C1060-90 "discloses a method of inspecting building components." ASTM-C 1060-90, however, discloses standard practices for thermographic inspection of insulation installations in envelope cavities of frame buildings.

The Examiner notes that ASTM-C1060-90 discloses: "preparing a building for inspection by creating a temperature differential of **greater than 18° F** between inside and outside of the building for a period of time." However, the Examiner fails to state that the ASTM document provides that the period of time is "four hours prior to the test." The Examiner also fails to state that the claimed temperature differential is 10°F, not 18°F as disclosed by the ASTM document.

The Examiner notes that ASTM-C1060-90 "does not disclose the particular interior building components, obtaining temperature profiles of each electrical outlet in the building, the preparing step including turning on all light switches and exhaust blowers in the building and the temperature profiles detecting moisture."

Additionally, the Examiner fails to report that ASTM-C1060-90 does not disclose:

- 1) preparing a residential building for inspection by creating a temperature

differential of greater than 10°F between the inside and outside of the residential building.

Importantly, the primary reference does not disclose the claimed process steps to prepare the residence for inspection. If these claimed process steps are taken, then the inspection can be completed within four hours. This is a surprising and unexpected result, as the ASTM-C1060-90 teaches, away from the claimed process steps and the completion of the test within four hours. Indeed, the disclosure in ASTM-C1060-90 is very good evidence for why the claimed invention is nonobvious because the claimed process should not work in view of the disclosure in the ASTM document.

To further make a case of obviousness, the Examiner provides the Argentino reference. Argentino only states that “infrared cameras” can be used in an energy audit. This document is not enabling and provides no substantive information with respect to the claim elements. Argentino only states that “. . . infrared cameras . . . to find inefficiencies that cannot be detected by a visual inspection.” No further examples or specifics are disclosed with respect to the conditions or components that can be detected with infrared. As the Court of Appeals for the Federal Circuit has stated multiple times before, an invention also may not be rendered obvious unless the prior art is sufficiently enabling. *Motorola, Inc. v. Interdigital Technology Corp.*, 121 F.3d 1461, 1471 (Fed. Cir. 1997); *Beckman Instruments, Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551 (Fed. Cir. 1989).

Next, the Examiner cites to InfraMation.

“Applicant’s arguments regarding the amount of time it takes to perform the test, i.e. within four hours are moot in view of the new grounds for rejections.”

6-14-07 office action at p.8

The Examiner cited to the InfraMation document to show that InfraMation discloses that it is known in the art the infrared thermography, *i.e.*, thermal imaging/profiling, is used to inspect building envelopes by detecting both moisture and air leakage (see last page, title: “Nondestructive testing of building envelope systems using Infrared thermography” by Snell).

Applicant objects to the use of prior art not made of record to support an assertion of obviousness. Without a copy of the document, neither Appellant, nor the public can discern the true scope of the prior art.

The Examiner's arguments with respect to obviousness further confirm a lack of understanding of the technology. "Air must be flowing through the ducts in order to determine if there is a thermal anomaly in the ducts" is completely erroneous. The blowers are turned on to create an electrical load to create thermal contrast which can be detected at the electrical outlet.

The presently claimed method for residential inspection is rapid, i.e., occurs within four hours. This element is not disclosed or suggested by the cited prior art. The presently claimed invention requires certain steps to put the residential building in condition for rapid inspection. These elements are not disclosed or suggested by the prior art. The presently claimed invention identifies a variety of problems: moisture, lack of insulation and electrical problems. Again these elements are not shown in the cited art.

The ASTM method only relates to the detection of insulation. Indeed the ASTM document is clear on this point—infrared may be useful in other areas outside of the inspection of insulation but "their interpretation may require procedure and techniques not presented in this practice." The Argentino reference does not disclose or suggest any limitation because it is not enabling. A reasonable chance of success must exist. The Lee Declaration shows what is possible if the method is practiced within the parameters of the invention. These possibilities were not recognized in the cited references. It is only based upon the Appellant's disclosure that the claimed invention is known. Additionally, this technology has the indicia of nonobviousness in that there was a long felt need in the industry to develop such comprehensive, fast and reliable scans. 132 Declaration by Bruce Thomas.

The Examiner's conclusion of obviousness with respect to Claim 10 is not based on evidence of record. The conclusion of obviousness misstates the factual element present in the art, ignores elements in the claims and disregards the evidence submitted in the 132 declarations. Consequently, Appellant respectfully request that the finality of obviousness rejection be withdrawn with respect to claim 10.

B. The Finality of the Rejecting of Claims 26-30 & 60 Should be Withdrawn

Claims 26-30 and 60 are rejected under 35 U.S.C. § 103(a) as being unpatentable over ASTM-C1060-90 in view of Argentino and the publication titled "Infrared Inspection: Sample Home Inspection" by Boldstar.

Claims 26-30 and 60 are directed to a method to detect potential electrical problems in a residential building. To obtain sufficient thermal contrast certain process steps are required:

"turning on substantially all light switches and substantially all exhaust blowers"

Oddly, the Examiner cites to ASTM-C1060-90 relating to inspection of insulation as the primary prior art reference. The disclosure in ASTM-C1060-90 is completely unrelated to the claimed method (26-30 & 60). To supply the deficiencies in ASTM-C1060-90, the Examiner cites to Boldstar. Boldstar does not disclose any procedures relating to the thermal inspection. Boldstar does disclose that an electrical panel can be inspected for electrical thermal anomalies. The present application does not relate to inspecting an electrical panel, but rather outlets (if the claimed thermal load is generated according to the claimed process steps).

Although, none of the claimed elements are disclosed in the cited reference (and contrary to the evidence submitted in the 132 declarations) the Examiner concludes that the invention would be obvious to one skilled in the art. "Turning on lights will all help to obtain a more accurate temperature profile of the energy efficiency of the building." The claims are not related to energy efficiency. The Examiner does not really appear to have an understanding of what is claimed and thus, can't provide a meaningful assessment of the prior art. In fact, the Examiner's assertions with respect to why one skilled in the art would use these process steps prior to an inspection, show why this assertion is wrong.

In this case, the cited prior art teaches obtaining temperature profiles of all of the electrical outlets and ducts when inspecting the interior components of the building, and assessing the profiles of the electrical outlets and ducts for an anomaly indicating an electrical problem to determine if the circuits are overheating and to determine if the ducts are leaking, respectively, wherein turning on substantially all light switches and substantially all exhaust blowers in the building ducts when doing such tests is within the knowledge that is generally available to one of ordinary skill in the art since it must be performed in order to

inspect the electrical outlets and ducts without having to move from area to area turning each outlet and duct on, i.e., saves time to turn them all on at once and inspect them while they are all on.

10/708,571, June 8, 2006 office action at p. 8

It is noted that the step of "turning on substantially all light switches and substantially all exhaust blowers in said residential building" is related to providing an increased electrical load to increase **the contrast** of the thermal image at each electrical outlet so that the inspection can be rapidly completed.


The Examiner has presented no factual basis for the assertion that the two claimed process steps were within the knowledge of one skilled in the art. First, Boldstar relates to electrical panel inspection. It does not relate to electrical outlets. The present application relates to the inspection of the numerous electrical outlets in a residential structure.

Appellant respectfully request that the finality of the obviousness rejection of claims 26-30 & 60 be withdrawn, because a reasoned statement grounded in the *Graham* inquiries has not been made by the examiner.

Respectfully Submitted,

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10-22-07
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APPENDIX

Claims on Appeal:

Claims 1-9 (canceled).

Claim 10 (previously presented) A method to rapidly inspect residential building components for a designated entity comprising the steps of:

preparing a residential building for inspection by creating a temperature differential of greater than 10°F between the inside and the outside of said residential building and turning on substantially all light switches and substantially all exhaust blowers in said residential building; and then

obtaining temperature profiles of the exterior residential building components selected from the group consisting of wall, eave and fascia wherein said temperature profiles detect moisture;

obtaining temperature profiles of the interior surface of a pitched roof wherein said temperature profiles detect moisture;

obtaining temperature profiles of the interior residential building components;

obtaining temperature profiles of each electrical outlet in the residential building;

assessing each of said temperature profiles to detect a thermal anomaly indicative of a problem with said residential building components wherein said problem can include moisture; and

reporting said problem to said designated entity wherein said steps up to the step of assessing each of said profiles occur within 4 hours.

Claims 11 – 25 (canceled).

Claim 26 (previously presented) A method to detect a potential electrical problem in a residential building comprising the steps of:

preparing said residential building to detect a potential electrical problem by turning on substantially all light switches in said residential building; and turning on substantially all exhaust blowers in said residential building; and then

obtaining temperature profiles of substantially all electrical outlets in said residential building; and assessing each of said temperature profiles for an anomaly indicative of an electrical problem, wherein said steps up to the step of assessing each of said profiles occurs with 4 hours.

Claim 27 (original) The method of claim 26 wherein said electrical problem is an overload of an electrical circuit.

Claim 28 (original) The method of claim 26 wherein said electrical problem is contact surface over heat.

Claim 29 (original) The method of claim 26 wherein said electrical problem is hot electrical wire within a wall.

Claim 30 (original) The method of claim 26 wherein said temperature profiles are recorded on a digital recording device.

Claim 31 - 59 (cancelled)

Claim 60 (previously presented) The method of claim 26 further comprising the step of measuring the temperature of substantially all electrical outlets.

Claim 61 - 62 (cancelled)